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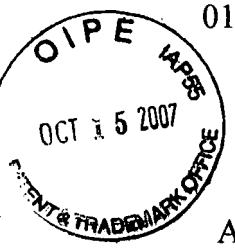

0132.67604

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant:	Robert Baer
Serial No.:	10/752,431
Conf. No.:	3776
Filed:	01/06/2004
For:	FASTENERS FOR COMPOSITE MATERIAL
Art Unit:	3677
Examiner:	Reese, David C.

I hereby certify that this paper is being deposited with the United States Postal Service as FIRST-CLASS mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this date.

11 Oct 07 _____
Date *Registration No. 29,367*
Attorney for Applicant

TRANSMITTAL

Mail Stop Appeal - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

(X) Appellants' Revised Brief On Appeal Under 37 C.F.R. § 41.37

(X) The Commissioner is hereby authorized to charge any additional fees which may be required to this application under 37 C.F.R. §§1.16-1.17, or credit any overpayment, to Deposit Account No. 07-2069. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 07-2069. A duplicate copy of this sheet is enclosed.

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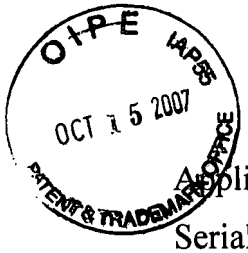
Customer No. 24978

GREER, BURNS & CRAIN, LTD.

By: _____
Patrick G. Burns
Registration No. 29,367

0132.67604 PATENT APPLICATION



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APPELLANTS' REVISED BRIEF ON APPEAL UNDER 37 C.F.R. § 41.37

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APPELLANTS' REVISED BRIEF ON APPEAL UNDER 37 C.F.R. § 41.37

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This Revised Appeal Brief is being filed in response to the Notification of Non-Compliant Appeal Brief mailed on September 12, 2007.

REAL PARTY IN INTEREST

The real party in interest in this case is Abbott Interfast Corporation, 190 Abbott Drive, Wheeling, Illinois 60090.

RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences related to this application.

STATUS OF CLAIMS

Claims 1-3 and 5-9 are pending, and claim 4 has been canceled. The subject of this appeal is claim 1. Dependent claims 2, 3 and 5-9 stand or fall with claim 1.

STATUS OF AMENDMENTS

The last amendment filed was Amendment F, which has been entered and considered. An amendment was not filed subsequent to the final rejection mailed January 24, 2007.

SUMMARY OF CLAIMED SUBJECT MATTER

Claim 1 defines a fastener 10 (page 3, line 13) (Fig. 1) for composite material. The fastener 10 (page 3, line 13) (Fig. 1) includes a shaft 12 (page 3, line 13) (Fig. 1) having a longitudinal axis, and a head 14 (page 3, line 13) (Fig. 1) at a first end of the shaft. The

head 14 (page 3, line 23) (Fig. 1) has an undercut edge 28 (page 3, line 23) (Fig. 3) which is inverted in a circular arc towards the head 14 (page 3, line 24) (Fig. 1). The undercut edge 28 (page 3, line 23) (Fig. 3) is furthest from a top surface of the head 14 (page 3, line 23) (Fig. 1) at an outside portion of the head 14 (page 3, line 23) (Fig. 1) furthermost from the longitudinal axis. The undercut 28 (page 3, line 23) (Fig. 3) edge is closer to the top surface between the outside portion and the longitudinal axis.

A point 16 (page 3, line 14) (Fig. 1) is provided at the other end of the shaft 12 (page 3, line 14) (Fig. 1). A first portion 18 (page 3, line 15) (Fig. 1) of the shaft 12 (page 3, line 14) (Fig. 1) adjacent the point 16 (page 3, line 15) (Fig. 1) is threaded, and extends over a portion of the total length of the shaft 12 (page 3, line 14) (Fig. 1). The threads 69 (page 4, line 11) (Fig. 1) and first portion 18 (page 4, line 11) (Fig. 1) of the shaft 12 (page 3, line 14) (Fig. 1) have three radial lobes 64 (page 5, line 2) (Fig. 7).

A second portion 20 (page 3, line 16) (Fig. 1) of the shaft adjacent the head 14 (page 3, line 16) (Fig. 1) is not threaded, and has a plurality of spaced rings 22, 23, 25 (page 3, line 16) (Fig. 1). The spaced rings reduce mushrooming of the composite material when the fastener 10 (page 3, line 13) (Fig. 1) is used in the composite material.

The fastener 10 (page 3, line 14) (Fig. 1) of claim 2/1 further includes a knurled portion 24 (page 3, line 19) (Fig. 1) between the first and second portions 18, 20 (page 3, lines 19-20) (Fig. 1).

In the fastener 10 (page 3, line 14) (Fig. 1) of claim 3/1 the first portion 18

(page 3, line 15) (Fig. 1) has asymmetrical threads.

The fastener of claim 5/1 has three rings 22, 23, 25, (page 3, line 16) (Fig. 1) and the rings 22, 23, 25 (page 4, line 3) (Fig. 1) are unequally spaced with respect to each other.

In the fastener 10 (page 3, line 13) (Fig. 1) of claim 6/1 the shaft has a total length TL from an inside surface 33 (page 4, line 8) (Fig. 1) of the head 14 (page 4, line 8) (Fig. 1) to the point 16 (page 4, line 8) (Fig. 1). The fastener 10 (page 3, line 13) (Fig. 1) has three rings 22, 23, 25, (page 3, line 16) (Fig. 1) the first ring 22 (page 4, line 9) (Fig. 1) being located about .23 TL from the inside surface 33 (page 4, line 9) (Fig. 1), the second 23 (page 4, line 9) (Fig. 1) being located about .16 TL from the inside surface 33 (page 4, line 9) (Fig. 1), and the third ring 25 (page 4, line 9) (Fig. 1) being located about .07 TL from the inside surface 33(page 4, line 10) (Fig. 1).

The fastener 50 (page 4, line 18) (Fig. 5) of claim 7/1 also includes three rings 62, 63, 65, (page 4, line 20) (Fig. 5) and the rings 62, 63, 65 (page 4, line 20) (Fig. 5) are equally spaced with respect to each other.

In the fastener 50 (page 4, line 18) (Fig. 5) of claim 8/1 the shaft 52 (page 4, line 18) (Fig. 5) has a total length TL from an inside surface 73 (page 5, line 14) (Fig. 5) of the head 54 (page 4, line 18) (Fig. 5) to the point 56 (page 5, line 14) (Fig. 5). The fastener has three rings 62, 63, 65, (page 5, line 8) (Fig. 5) the first ring 62 (page 5, line 14) (Fig. 5) being located about .13 TL from the inside surface 73 (page 5, line 15) (Fig. 5), the second

ring 63 (page 5, line 15) (Fig. 5) being located about .08 TL from the inside surface 73 (page 5, line 15) (Fig. 5), and the third ring 65 (page 5, line 15) (Fig. 5) being located about .04 TL from the inside surface 73 (page 5, line 16) (Fig. 5).

The fastener of claim 9/1 has a shank slot 70 (page 5, line 1) (Fig. 5) adjacent the point 56 (page 5, line 1) (Fig. 5).

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claim 1 stands rejected under § 103(a) over Craven, U.S.P.N. 6,666,638, in view of Fukubayashi U.S.P.N. 5,044,855 and Linsey U.S.P.N. 112,935. This is the only rejection to be reviewed on appeal.

ARGUMENT

Several declarations were presented to the examiner during prosecution, none of which are relied on in this appeal, except for some background information. Applicants will show that the appealed rejection does not establish *prima facie* obviousness based on the cited references, and should be reversed.

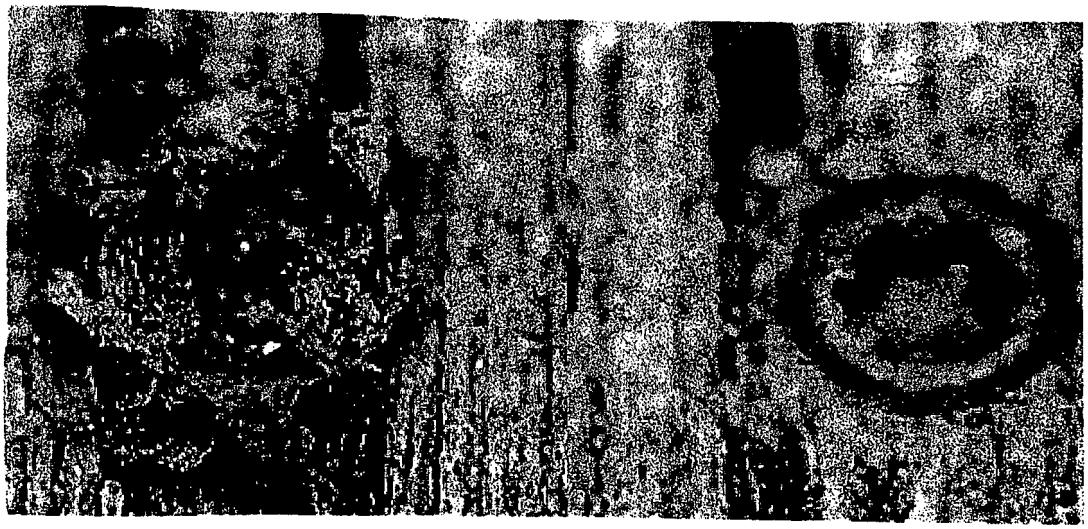
A. Background

The fasteners of the present invention were designed for use in composite decking materials. It is a matter of public record that composite materials are relatively new for use as decking material, and have only become popular in about the last 10 to 15 years.

Composite decking materials are primarily a mix of recycled or virgin plastics, a filler, and resin. The filler can be any number of things, but for the most part, includes some form of wood flour. The wood flours can either be soft wood or hard wood in nature, and are joined with the plastic material using a resin binder. (Tipps Declaration, page 3, paragraph 1).

Some of the problems with early fasteners for composite materials were mushrooming and splitting of the material when the fastener was installed. A photograph of a prior art screw in composite material is shown on the following page on the left, and one embodiment of the present invention installed in composite material is shown on the right. The photo on the left shows, among other things, mushrooming of the composite material around the screw head, where the present invention (photo on the right) self-countersinks into the material without mushrooming. (Response A, mailed February 24, 2005).

Some composite materials are denser than others (Tipps Declaration, page 3, paragraph 1). Head setting and deformation of the drive recess present greater difficulties in the denser materials. These difficulties have been markedly reduced by the present invention, in part by the use of a threaded shaft having three lobes.



B. Summary Of The References

The three cited references, Craven U.S. Patent No. 6,666,638, Fukubayashi U.S. Patent No. 5,044,855, and Linsey U.S. Patent No. 112935, will be summarized.

Craven '638 issued in 2003. It discloses the only screw (300 in Fig. 14) among the three cited references designed for use with decking material. The fastener has a shaft having a longitudinal axis. Fig. 5 shows a "neck" 170 at one end of the shaft. The neck is referred to as having substantial tapered leading surfaces, (col. 5, line 60), not the undercut head of claim 1 of the present application. Fig. 14 discloses a point 340 at the other end of the shaft.

A threaded portion 353 of the shaft is located adjacent the point 340, and extends over a portion of the total length of the shaft. A plurality of "annular ridges" 390 are located in a second portion 363 of the shaft, adjacent the head.

Referring to claim 1 of the present invention, Craven does not disclose that threads 354 have three radial lobes, or that the undercut edge of the head is inverted in a circular arc towards the head, with the undercut edge being furthest from the top surface of the head furthermost from the longitudinal axis, the undercut edge being closer to the top surface between the outside portion and the longitudinal axis.

Fukubayashi '855 issued in 1991. It discloses a fastener 1 designed for use in thin boards (col. 1, lines 6-10) having a driven head 2 and a shank portion 3. The reference does not mention wood composite material or decking of any kind. The shank portion 3 includes a first portion 3a adjacent a tip of the shank or shaft portion. Most of the first portion 3a is unthreaded, and was designed for entry into a required pilot hole in a work piece (column 4, lines 29-35). The unthreaded portion 3a is the only portion that has three lobes (col. 4, lines 39-44). The fastener's second and third portions, 3b and 3c, are threaded on a round shank in at least most of those portions (col. 4, lines 63-67 and col. 5, lines 16-17). The third portion 3c is a work holding portion designed to hold the fastener in firm engagement with a female thread 5a in a work piece 5.

Referring to claim 1of the present application, Fukubayashi is not designed for composite materials, does not have an undercut head, and does not have a point adjacent a threaded first portion or a plurality of rings in a second portion of the fastener. Moreover, in Fukubayashi, only the unthreaded portion 3a has three lobes, the purpose of which is to

enable the fastener to more easily enter a thin work piece. The portions 3b and 3c create less engagement between the screw thread and the female thread found in the work piece.

Linsey '935 issued in 1871. It discloses a screw designed for wood (col. 1, line 12). The head B of the screw is undercut (a), but the head has no facility for shaving, removing, or compressing remnant materials. Likewise, the screw does not have a lobed thread shaft.

C. The Rejection Is Based On Incorrect Factual Findings

Applicants dispute several fact findings of the examiner. First, the examiner found that Fukubayashi discloses a fastener "similar to" that of Craven. Applicants dispute this finding for the following reasons.

Craven discloses a fastener for thick composite materials. The fastener is designed to be used without pilot holes. For these reasons, the Craven fastener has a pointed tip, and is long and narrow.

In contrast, Fukubayashi discloses a fastener designed for thin boards. It is designed to be used with pilot holes, and does not have a pointed tip. It is short and wide, and has continuous threaded portions that run across most of the shaft, and extend to the head. This is perhaps a necessary feature because the Fukubayashi fastener is designed for use with thin boards. For these reasons, the fasteners in Craven and Fukubayashi are

significantly different in structure, function and intended use. The examiner's finding that they are similar, and therefore can be combined, is erroneous.

Second, the examiner found that Linsey discloses a fastener "similar to" that of Craven in view of Fukubayashi (p. 4, line 8). Applicants contest this finding for the following reasons.

The Linsey screw is designed for thick pieces of wood, not composite materials, as with Craven, or thin boards, as with Fukubayashi. The Linsey fastener differs significantly from both the Craven and Fukubayashi fasteners in structure, function and intended use, and the examiner's finding that they are similar is erroneous.

D. The Rejection Does Not Establish *Prima Facie* Obviousness Because The References Cannot Be Reasonably Combined

It is unreasonable for the examiner to combine the cited references in light of the significant differences in structure, function and intended use just described. These differences, and even the dates of the references, are a strong indication that the examiner is using hindsight, and not reasonably combining references.

The examiner's conclusion that one would have been motivated to combine Linsey with Craven in view of Fukubayashi (p. 4, lines 15-18) is unreasonable. The Examiner found that the undercut head of Linsey prevents the head from pressing the fibers apart and splitting the material, the remainder being left flat and smooth, without the trouble

of countersinking, thus providing an example of a self-countersinking head (page 4, lines 15-18). However, the Linsey screw head was designed with a "sharp" outer edge to cut the fibers (col. 1, lines 18 and 24), not press the fibers apart. This conclusion also is not adequately supported because the examiner has not established that one of ordinary skill would recognize that an undercut head in a wood screw made in 1871 (Linsey) would prevent mushrooming and splitting of today's composite materials.

The examiner also has not established that one of ordinary skill would recognize that an unthreaded three-lobe end in a fastener designed for installation in pilot holes to fasten thin boards (Fukubayashi) would be useful when fastening composite material without pilot holes, and without mushrooming. Here again, the differences in structure, function and intended use among the references is evidence of hindsight, and not motivation, suggestion, or any other reason for modifying and combining these particular references.

CONCLUSION

For the foregoing reasons, Applicants respectfully request the rejection of claim 1 and its related dependent claims be reversed, with instructions to allow this application.

Respectfully submitted,

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By

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October 11, 2007

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CLAIMS APPENDIX

1. (Previously Presented) A fastener for composite material comprising:

a shaft having a longitudinal axis,

a head at a first end of the shaft, the head having an undercut edge which is inverted in a circular arc towards the head, the undercut edge being furthest from a top surface of the head at an outside portion of the head furthermost from the longitudinal axis, the undercut edge being closer to the top surface between the outside portion and the longitudinal axis,

a point at the other end of the shaft,

a first portion of the shaft adjacent the point being threaded, and extending over a portion of the total length of the shaft, the threads and first portion of the shaft having three radial lobes, and

a second portion of the shaft adjacent the head not being threaded, said second portion having a plurality of spaced rings, the spaced rings reducing mushrooming of the composite material when the fastener is used in the composite material.

2. (Original) The fastener of claim 1 comprising a knurled portion between said first and second portions.

3. (Original) The fastener of claim 1 wherein said first portion has asymmetrical threads.

4. (Canceled)

5. (Original) The fastener of claim 1 comprising three said rings, wherein said rings are unequally spaced with respect to each other.

6. (Original) The fastener of claim 1 wherein said shaft has a total length TL from an inside surface of said head to said point, the fastener comprising three of said rings, a first of said rings being located about .23 TL from said inside surface, a second of said rings being located about .16 TL from said inside surface, and a third of said rings being located about .07 TL from said inside surface.

7. (Original) The fastener of claim 1 comprising three said rings, wherein said rings are equally spaced with respect to each other.

8. (Original) The fastener of claim 1 wherein said shaft has a total length TL from an inside surface of said head to said point, the fastener comprising three of said rings, a first of said rings being located about .13 TL from said inside surface, a second of said rings being located about .08 TL from said inside surface, and a third of said rings being located about .04 TL from said inside surface.

9. (Previously Presented) The fastener of claim 1 comprising a shank slot adjacent said point.

EVIDENCE APPENDIX

Appellant is not relying on any evidence submitted pursuant to §§ 1.130, 1.131 or 1.132 of this title.

RELATED PROCEEDINGS APPENDIX

None.